

REMARKS

Pending Claims:

Claims 1 to 8 and 10 were pending. Claims 3, 6 to 8, and 10 have been canceled. Claim 1 has been amended to include the subject matter of canceled claim 3.

Rejections under 35 U.S.C. § 103:

Claims 1 to 5 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0057990 A1 to Ghelli et al. ("Ghelli") in view of U.S. Patent No. 4,424,190 to Mather, III et al. ("Mather") and further in view of U.S. Patent No. 5,770,149 to Raible. Applicants respectfully traverse this rejection of the claims.

Although Applicants disagree with the Examiner, the claims have been amended to clarify the subject matter of the claims. Claim 1 has been amended to include the subject matter of canceled claim 3. As amended, claim 1 requires that the outlet of the venous reservoir is connected to the inlet of the heat exchanger, the outlet of the pump is connected to the inlet of the oxygenation apparatus, and the outlet of the oxygenation apparatus is connected to the inlet of the arterial filter.

Claim 1 is the only independent claim. Claim 1 requires at least five features not disclosed in Ghelli. Specifically, claim 1 requires: (1) a venous blood reservoir with an inlet and an outlet; (2) an arterial blood filter; (3) the integration of the venous blood reservoir, heat exchanger, oxygenation apparatus, arterial blood filter and pulsating pump in a single monolithic assembly; (4) the outlet of the venous reservoir is connected to the inlet of the heat exchanger; and (5) the outlet of the oxygenation apparatus is connected to the inlet of the arterial filter.

The Examiner states that various components are well known in the art and that it would be obvious to add these components, vary the order in which the components are connected, and integrate all the components into a single monolithic device. For instance, the Examiner states in reference to claim 1 that:

In light of Ghelli's teaching of a reservoir and that a monolithic assembly saves space in the vicinity of the operating field, it would have been obvious to one of ordinary skill in the art for the reservoir to be a venous blood reservoir with an inlet and an outlet, with the reservoir integrated into the monolithic assembly as taught by Mather. Paragraph 4, bottom of page 3.

In light of Ghelli's teaching of a filter, it would have been obvious to one of ordinary skill in the art to modify Ghelli to include an arterial filter, as taught by Raible, to allow the blood to be filtered before returning the blood to the patient, as taught by Raible. Paragraph 4, second to last sentence on page 4.

In addition, in light of Ghelli's teaching that a monolithic assembly saves space in the vicinity of the operating field, it would have been obvious to one of ordinary skill in the art to modify the monolithic assembly of Ghelli to include a reservoir and an arterial blood filter, as taught by Raible, to allow the device to be positioned close to the patient and minimize the need for lengthy blood-filled tubes, as taught by Raible. Paragraph 4, last sentence on page 4.

The Examiner states in reference to claim 3, the subject matter of which has been incorporated into claim 1, that:

In light of Ghelli's teaching of a reservoir and of blood flowing through an inlet of the heat exchanger, it would have been obvious to one of ordinary skill in the art for the outlet of a venous reservoir to be connected to the inlet of a heat exchanger, as taught by Mather. Paragraph 6, near bottom of page 5.

In light of Ghelli's teaching of a filter, it would have been obvious to one of ordinary skill in the art to modify Ghelli to include an arterial filter connected to the outlet of the oxygenation apparatus,

as taught by Raible, to allow the blood to be filtered before returning the blood to the patient, as taught by Raible. Paragraph 6, page 6.

However, there is no basis or reason why a person of skill in the art would modify Ghelli in the particular manner required by claim 1. In other words, the general knowledge of a person of skill in the art including the cited references does not render the claims obvious unless that general knowledge and the cited references would reasonably result in the person of skill in the art making the specific modifications to the prior art that are required by the claims. There is no reason a person of skill in the art would combine the cited references in the manner required by claim 1. Support for this conclusion is shown by the number of contentions regarding obviousness quoted above.

Claim 1 is allowable for the reasons set forth above. Claims 2, 4, and 5 depend from claim 1 and add further limitations. Claims 2, 4, and 5 are thus allowable for at least the same reasons as set forth above with respect to claim 1.

Conclusion

In view of Applicants' remarks, the claims are believed to be in condition for allowance. Reconsideration, withdrawal of the rejections, and passage of the case to issue are respectfully requested.

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an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our deposit account.

Respectfully submitted,

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By 

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